Chapter 1: Introduction

Researchers have increasingly used measures of material hardship to examine the well-being of low-income families, especially in the context of welfare reform. These measures generally employ direct indicators of consumption and physical living conditions to examine whether families are meeting certain basic needs. In many cases, material hardship measures have been used to supplement more traditional income-based poverty measures, such as household income and the federal poverty level. In recent years, material hardship measures have appeared in a wide range of surveys and studies, including the U.S. Census Bureau's Survey of Income and Program Participation (SIPP), recent studies of welfare leavers, the Project on Devolution and Urban Change, the National Survey of American Families (NSAF), and the Women's Employment Survey (WES).

In light of increased interest in material hardship measurement, the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Planning and Evaluation (ASPE) developed a project to advance the study of material hardship. ASPE recognized that, while measuring material hardship has considerable value and policy relevance, researchers and policymakers also face methodological challenges in developing and using material hardship measures. For example, there is a lack of consensus on which hardships should be measured and whether and how they might be combined into an overall index of material hardship. Additionally, researchers are still evaluating the validity of hardship measures that are currently being used and how these measures compare to more traditional economic measures of income and poverty.

During the project's first phase, ASPE and Abt Associates Inc. held working group meetings with federal researchers from the U.S. Census Bureau, the U.S. Department of Housing and Urban Development, and the U.S. Department of Agriculture to plan the project's one-day Roundtable Meeting on Measuring Material Hardship (Roundtable Meeting). The Roundtable Meeting's goals were to:

1. Assess "where we are" in our understanding and measurement of material hardship;

2. Determine the extent to which there is agreement as to what we measure when we examine material hardship and how it should be measured; and

3. Identify what guidance can be provided, in the form of possible "next steps," to further develop material hardship measures.

On February 20, 2002, over 35 researchers and experts from both inside and outside the government attended ASPE's Roundtable Meeting on Measuring Material Hardship. The Roundtable Meeting's morning discussion session focused on identifying the underlying constructs of material hardship and criteria for developing material hardship measures. Meeting participants' also grappled with the issue of analytical strategies that might be used to develop a composite measure of material hardship. During the afternoon session, meeting participants discussed the key dimensions of hardship (e.g., food insecurity, shelter, and access to health care) and examined concrete measures in the areas of housing and health. The Roundtable Meeting concluded with a discussion of "next steps" for

furthering our understanding of material hardship measurement, generally, and for the project, more specifically. A summary of the meeting's proceedings is provided as Appendix A.

The Measures of Material Hardship project's second phase was to write this report, which provides further background on the issues discussed at the Roundtable Meeting. The goal of this report is to advance the study of material hardship measurement by summarizing information about material hardship and its application to research with low-income families and children. Specifically, the report:

- Discusses the ways in which material hardship has been conceptualized and operationalized by researchers;
- Highlights where there is consensus and differences across material hardship definitions and measurement approaches;
- Summarizes what we know about some of the material hardship measures that have been used to date in domestic research;
- Identifies the strengths and weaknesses of different measurement approaches and strategies that might be used to combine material hardship measures into composite scales and indexes; and
- Presents new analyses of the SIPP for the purpose of furthering our understanding of material hardship measurement among families and children.

Report Organization

The remainder of Chapter 1 discusses the motivation for measuring material hardship, including its potential to supplement existing income-based poverty measures. It also discusses some of the known weaknesses and limitations associated with measuring material hardship.

Chapter 2 focuses on clarifying what we mean by material need and identifies challenges and strategies with measuring this construct. First, we distinguish deprivation and, more specifically, material hardship from other common definitions of poverty. We subsequently present a possible conceptual model for defining material need. The chapter concludes with a discussion of some of the challenges that must be faced when developing a definition of material hardship and corresponding measurement strategies.

Chapter 3 reviews how material hardship has been measured in nine studies conducted in the US. It examines how these studies have defined material hardship and the approaches used to construct material hardship indexes. It subsequently distinguishes among the indicators that researchers have used to measure material need in these indexes and identifies those measures, taken from the SIPP, that have been most frequently used by researchers to construct hardship indexes.

Lastly, Chapter 4 builds on the previous chapters and presents analyses of material hardship among households with children, using measures from the 1996 SIPP's Adult Well-being topical module. The potential usefulness of various proposed material hardship measures depends on how these measures vary across households that have diverse experiences and live in different situations. The chapter uses the SIPP to provide concrete data examples and descriptive analyses of the measures that are most commonly used to construct material hardship indexes. The chapter concludes with a discussion of unanswered questions and options for future research.

Why Measure Material Hardship?

The growing use of material hardship measures to examine the well-being of low-income families, particularly families with children who have left welfare, reflects researchers' interest in assessing the challenges families face when they have limited income and resources. Recent research suggests that material hardship measures can supplement existing income-based poverty measures by providing descriptive information on of how families are doing (e.g., Beverly, 1999, 2000; Mayer, 1997; Mayer & Jencks, 1989; Rector, Johnson, & Youssef, 1999). Moreover, measures of material hardship are a potentially useful tool for policy analysis and program evaluation. This is especially the case with the growth in "in-kind" benefits and services (e.g., food stamps, Medicaid, work supports and services) relative to cash transfers, and in the wake of recent welfare reform policies. Measures of material hardship also have been portrayed as "making more sense" to the public and policymakers than the official poverty statistic. The official poverty statistic has been characterized as "abstract" and as providing a less concrete sense of the living conditions of the poor and non-poor.

As noted by one group of researchers, measuring material hardship gets at the issue of, "what does it mean to be poor," by examining families' living conditions and the extent to which they meet their basic needs (Federman et al., 1996).

Limitations of Income-based Poverty Measures

Historically, poverty and well-being in the US have been assessed using income-based measures (i.e., by applying the official poverty thresholds to income data reported in surveys). In theory, income-based measures capture a household's ability to purchase the goods and services that it needs. That is, income is a measure of a household's resources that can be used to meet its needs, allowing for differences in individual tastes and preferences (income does not prejudge what expenditures households should make). Domestic income-based poverty measures also benefit from the fact that they draw upon nationally-representative surveys and administrative data systems that regularly collect income data. This allows for longitudinal comparisons of income trends over time.

However, using income as a proxy for total family resources or well-being may misrepresent what is actually available to a household for the purpose of meeting its basic needs. A family's living conditions are shaped by more than current income, and households may experience different living standards for reasons not explained by current income (e.g., Beverly, 1999; Edin & Lein, 1997; Mayer & Jencks, 1989, 1993; Rector et al., 1999).

Income-based measures usually only account for "current income" and do not account for wealth (e.g., savings or other liquid assets), debt, or access to credit that may be used to obtain goods and services. Goods also may be obtained without income, savings or credit – they may be acquired as gifts, exchanged via barter, received as free services or public goods from the government (Ringen, 1988). To the extent that families are able to meet their basic needs using accumulated wealth or credit or through other markets, measures based on current income will misrepresent families' ability to meet their basic needs.

Income's ability to provide a meaningful picture of household resources is further limited by the reliability of the data used to construct income-based measures. Survey respondents may be reluctant to reveal their income in surveys, fail to report or over-report income due to errors in survey design (e.g., this is particularly the case in households with irregular income sources or among individuals who engage in self-employment), and intentionally over- or –under-state their income (Roemer, 2000). For example, underreporting of welfare-related income and income derived from existing assets is a common concern with the Current Population Survey (CPS), which serves as the data source for calculating the US poverty statistics. In another example, Edin and Lein's (1997) ethnographic study shows that low-income single mothers meet their basic needs by obtaining income and support from "irregular sources" that are not easily captured by traditional economic poverty measures (e.g., off-the-books employment, and money from relatives, romantic partners, and fathers of their children).

The limitations of income-based measures are illustrated by the recent criticisms of the US poverty measure. This measure, originally developed in the 1960s, compares families' before tax cash income to poverty thresholds that were intended to identify families with income too low to purchase basic necessities (the original measure was based on families' food needs and the percentage of their budgets that were devoted to food) (Short, 2001). While the statistic's thresholds have been updated for inflation since that time, the Committee on National Statistics (Citro & Michael, 1995) and other researchers (e.g., Ruggles, 1990; Short, Shea, Johnson, & Garner, 1998) have criticized the official US poverty measure for not keeping pace with policy and other developments. Specifically, the measure:

- Uses a definition of income that does not take into account government tax (i.e., EITC) and non-cash transfer (e.g., food stamps, WIC) policies that are targeted at helping low-income families;

- Relies on self-reported income data from surveys;

- Does not take into account geographic differences in cost of living (e.g., local variations in housing or shelter costs); and

- Uses a threshold that has not been adequately updated to reflect changes in the minimal standard of need (e.g., cost of childcare) that have occurred since the measure's inception (Citro & Michael, 1995; Ruggles, 1990; Short, 2001).

The Committee on National Statistics has proposed guidelines for a new poverty measure that addresses some of these criticisms; however, to date, consensus on the specifics of a new measure has not been reached.

Adding Another Dimension to the Picture of Family Well-Being

The limitations of existing income-based measures do not necessarily suggest that traditional poverty measures should be replaced with measures of material hardship. Rather, proponents of material hardship measures see them as an important complement to income-based measures and providing a different picture of the extent to which families are able to meet certain basic needs. Although the prevalence of income-based measurement strategies in the US may imply otherwise, poverty and well-being are multifaceted phenomena, not unidimensional concepts (Beverly, 2001). The relationships between income, expenditures, consumption, and material hardship are complex and changes in income may not result in parallel changes in the distribution of material well-being or hardship (Mayer & Jencks, 1993). As a result, researchers have come to use multiple measures to examine various aspects of family well-being and need.

As a practical matter, different populations of people are identified as poor when different measures are used. In fact, research findings suggest that hardship measures and income measures do not necessarily identify the same populations. For example, Mayer and Jencks (1989) found that family income only explains about 14% of the variance in the number of material hardships experienced by Chicago families in the 1980s. Other researchers also have shown that the distributions of material hardship and income do not parallel each other (e.g., Jencks & Torrey, 1988; Mayer, 1997; Mayer & Jencks, 1993). Bauman (2002) found that although the level of income-poverty increased as families were less attached to the labor force, families that experienced the greatest amount of material hardship were those that worked part of the year and those who moved onto welfare during the previous year. Similar differences in the population groups identified by income and direct measures of material hardship have been found in international and developing country research (e.g., United Nations Human Development Report).

The fact that different measures identify different population groups reinforces the premise that while income-based and material hardship measures are closely related, they are somewhat conceptually different. Mayer and Jencks (1989) point out that this corresponds to what they view as two distinct goals of US government programs and policies: 1) to reduce poverty through income transfers and other employment-support programs; and, 2) to reduce specific forms of hardship through in-kind assistance. As noted by Rector et al. (1999), "the fact that household income falls below a specific level reveals little about the nature of material deprivation within the household" (p. 351).

Increased Use of Material Hardship Measures by Researchers

Increasingly, policy research and program evaluations have incorporated material hardship measures into their analyses, both to look at whether programs and policies affect specific dimensions of hardship (e.g., food insecurity) and the overall level of material hardship experienced by families (e.g., across multiple dimensions of basic need). For example, recent research has:

- ***Compared hardship measures to income-based poverty measures.***
  As discussed further in Chapter 3, a number of researchers have constructed a hardship or deprivation index that they subsequently have used to compare families identified as experiencing multiple hardships with families whose income is below the poverty thresholds (Bauman, 1998; Beverly, 1999; Federman et al., 1996; Mayer & Jencks, 1989; Rector et al., 1999). Short (2003) also found that different populations are identified when material hardship measures are compared to alternative income-based poverty measures, which suggests that even if the existing official US poverty statistic is modified the differences between material hardship and poverty measures will persist.

- ***Analyzed the effects of family structure on material hardship.***
  Hardship measures have been used to examine resource-sharing and family well-being in cohabitating and married couple households. Generally, studies find that married couple households have less material hardship than households with a couple that cohabitates, even when controlling for income and other factors (Bauman, 2002; Lerman, 2002a, 2002b).

- ***Contrasted family well-being when adults receive welfare and when they work.***
  In a synthesis of findings from ASPE's welfare leavers studies, Acs and Loprest (2001) found that some studies show an increase in food and housing-related hardships after leaving welfare, while others found a decline or no change in material hardship after exiting welfare. In their book, *Making Ends Meet*, Edin and Lein (1997) found that working mothers experience higher levels of material hardship than those who receive welfare assistance. This occurs despite the fact that working mothers earn wages and have more "regular" income. Danziger et al. (2000), using data from the WES, concluded that although women who work experience higher levels of financial well-being, they still experience material hardship, albeit at somewhat lower levels than women who do not work every month. Other researchers have used measures of material hardship to examine the extent to which families transitioning off welfare are able to meet basic needs (e.g., Polit et al., 2001; Sherman, Amey, Duffield, Ebb, & Weinstein, 1998).

- ***Evaluated the effectiveness of policy interventions that provide in-kind assistance such as food or shelter, rather than income.***
  Borjas (2001) and Gundersen and Oliveira (2001) used material hardship measures to examine the extent to which in-kind government assistance programs (e.g., food stamps) attain their goal of helping families meet their basic food needs. They find that families with higher food hardship are more likely to participate in food stamps than other families. However, sophisticated analyses are required to disentangle causality and evaluate program efficacy.

- ***Examined more complex behavior such as labor market participation and transitions from welfare to self-sufficiency.***
  Material hardship has been shown to play a role in individual decision-making about transitions from welfare to work or self-support and the likelihood that families will be able to sustain self-sufficiency (Bauman, 2002).

In each of these studies, material hardship measures provide a valuable picture of family well-being, supplementing what can be learned from traditional income-based poverty measures.

Limitations of Material Hardship Measures

Despite their growing popularity, measures of material hardship are not without their weaknesses and limitations. Most importantly, despite recent efforts to further our understanding of material hardship and its measurement, a *common definition of material hardship does not exist*, nor is there a standard approach to its measurement. More specifically, since there is no commonly agreed upon standard of material need that applies to everyone, researchers have used somewhat different definitions and measurement approaches. For example:

- Researchers have included different dimensions of material need or consumption (e.g., food, shelter, medical care) in their operational definitions of material hardship; and,

- Within these dimensions, researchers have measured different constructs (e.g., housing quality, hunger, food insecurity, clothing in wintertime).

Additionally, there has been little research on the validity of specific measures and how they compare to more traditional economic measures of income and poverty.

Researchers also have made different choices about how to present material hardship data. Some report measures as independent indicators of need, while other researchers have used different strategies to combine hardship measures into composite indexes or scales. The composite measures describe hardship both within dimensions (e.g., food) and across dimensions (e.g., food, shelter, medical care). These issues are further complicated by the fact that no nationally-representative survey regularly collects data on multiple forms of hardship.[1]

Material hardship measurement also is vulnerable to criticisms about the role played by individual choice and preferences. Because of personal preferences, people may choose to not consume specific goods or services that others may consider necessities. For example, people may report that they have not eaten on a particular day or are hungry because they have chosen to use their limited resources to purchase other goods and services. To the extent that hardship measures are not linked to a particular cause, they may be subject to questions about their appropriateness as a measure or might overestimate the actual level of hardship that is experienced.

These and other limitations of material hardship measures are examined in more detail in the remainder of this report.

[1] Although the SIPP is a regularly occurring nationally representative survey, the Adult Well-being module, which collects most of the material hardship-related data, has only been included in one Wave of each of the three last Panels (1991, 1993, & 1996).

Goal of This Report

The goal of this report is to pull together, in one place, the various strands of research and thinking on defining and measuring material hardship in the US, particularly as they relate to research with low-income families and children. The second chapter lays out some of the definitional issues, underlying theoretical constructs, and analytical challenges that we face when examining material hardship. The subsequent chapter reviews how researchers in the US have used material hardship measures in their work. Finally, the fourth chapter provides some basic tabulations of existing material hardship measures in the SIPP.